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Special Edition

From coal to oil:

A century of continuous progress at the FISC San Diego Fuel Depot

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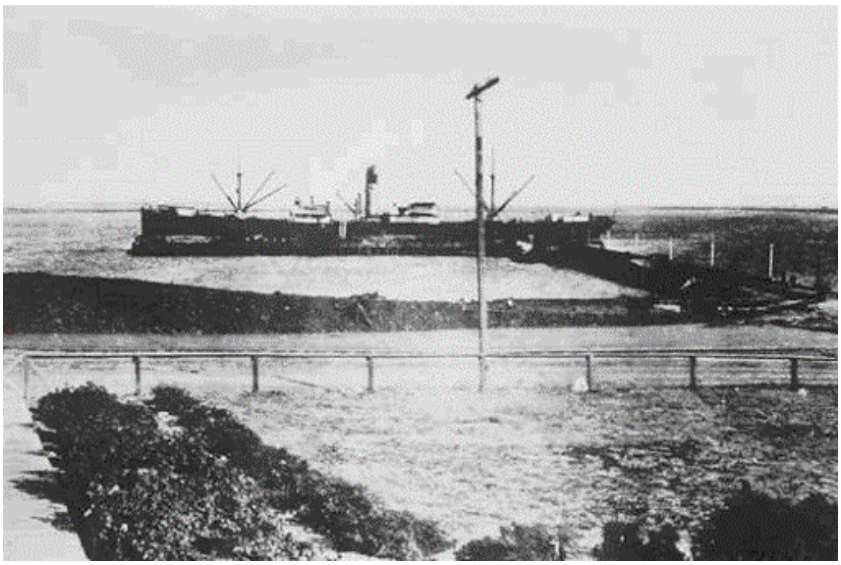

A 1920 photo of coal storage and coal wharf in operation at the La Playa Coaling Station.

After 100 years of service, the San Diego Naval Fuel Depot is still forging ahead as a fuel facility. What is today known as the Fleet and Industrial Supply Center (FISC) Fuel Department was born on Sept. 24, 1901, when Elihu Root, acting Secretary of War, transferred, by order of President Theodore Roosevelt, 360 acres of the Point Loma Military Reservation to the Department of the Navy for use as a coaling station.

The Fuel Depot is located approximately six miles west of downtown San Diego. The facility is located on Naval Base Point Loma. The depot currently covers about 200 acres of land and has 50 storage tanks, 30 miles of carbon steel piping, over 3,000 valves, a 950-foot fueling pier, and a full-service petroleum and testing laboratory.

Officially established as the La Playa Coaling Station, it opened its "coal bins" for business in 1904 when Lt. Cmdr. J. H. Holcombe reported for duty. In 1924, when the demand for coal stopped and oil burning fuel became the norm, its name was changed to the Navy Fuel Depot, a fuel supply point for Navy ships.

In 1947, the Fuel Depot was disestablished as an independent activity and its mission and tasks were assumed by the Navy Supply Depot, later called the Naval Supply Center, now known as the Fleet and Industrial Supply Center.

The last ship to be fueled with coal at the La Playa Coaling Station was the cruiser USS *New York*. In 1926, 800 tons of coal were loaded aboard the *New York* for her decommissioning trip to the east coast.

The last of the 15,000 tons of remaining coal was later sold to tramp steamers and local citrus growers for their smudge pots. Mules were first used to pull cars on tracks along a rock jetty to waiting long boats. Later two steam locomotives were used to pull railroad cars to and from the storage yard.

A 75-foot coal-loading derrick was used to load coal on ships and was positioned at the head of the coaling wharf. The derrick could load 75 tons of coal per hour. A concrete coal storage platform was built to store the coal. The storage capacity of the facility was 50,000 tons of coal. About 20 full-time employees worked at the coaling station. When a shipload of coal arrived, it took 50 to 60 laborers, hired from an agency in downtown San Diego to unload the ship's hold.

The first oil tanks constructed in 1917 and 1918 are still in use today. As the "age of coal" began to wane, more and more oil storage tanks were constructed. The first fuel oil storage tanks were built with riveted steel, followed by concrete and, in the mid 1950s, welded steel was used. Today, 50 storage tanks are in use with a storage capacity of around 50 million gallons.

The coal-loading derrick on the fuel dock disappeared between 1935 and 1938. In the next two years, the small remaining pile of coal was gone and

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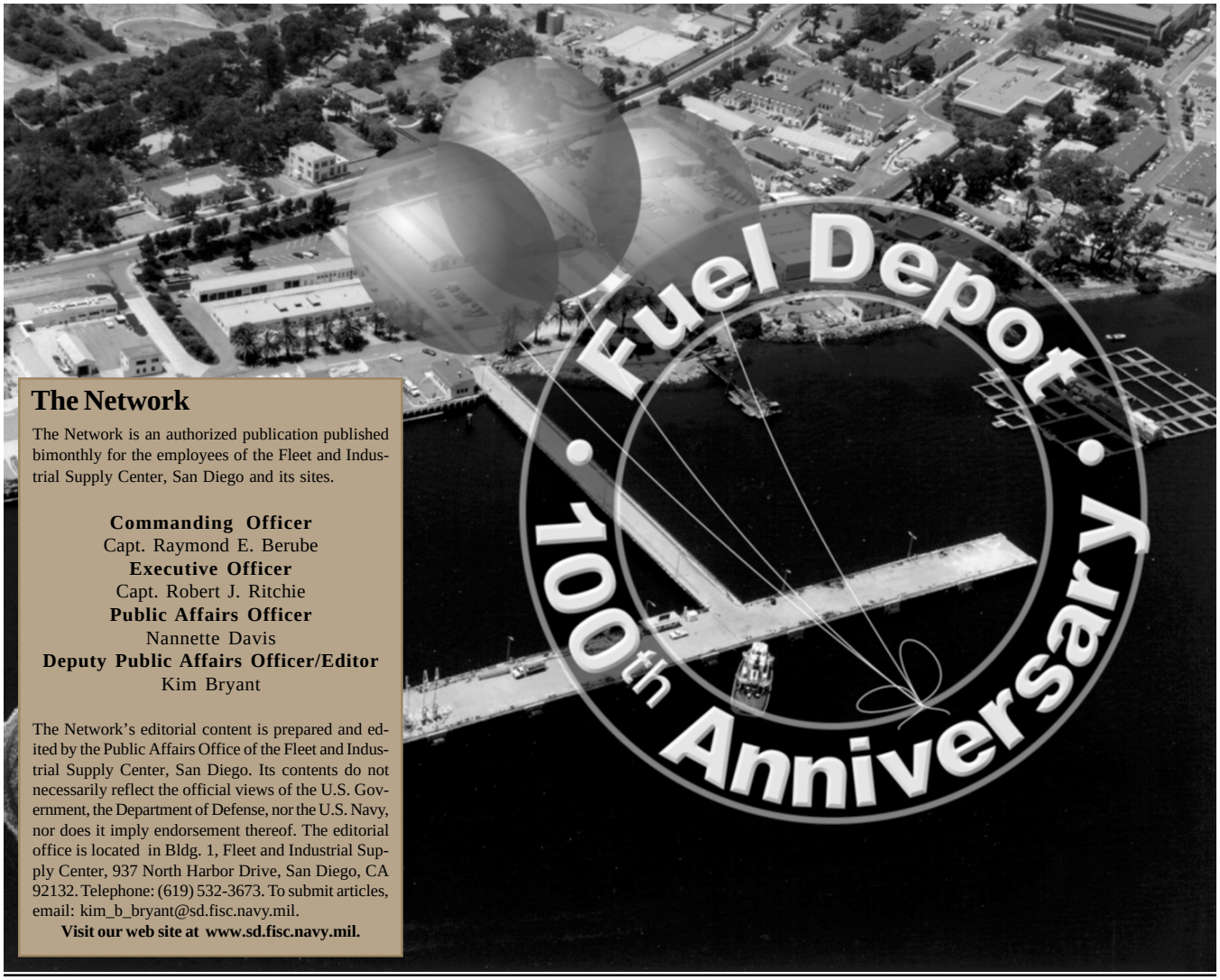
On Sept. 24, a major FISC San Diego milestone was reached when the Fuel Department completed 100 years of service to the Fleet. The department was created in 1901 when the then acting Secretary of War transferred 360 acres of federal land at Point Loma to the Department of Navy for use as a coaling station named La Playa.

The historical importance of Point Loma is significant. Point Loma is the place where California had its origins. And, the establishment of the La Playa Coaling Station, the first Naval base in San Diego, was the beginning of a long-term relationship with the greater metropolitan community of San Diego.

In honor of the past, present and future military and civilian personnel responsible for building, working, and maintaining the Fuel Depot, I want to take this opportunity to congratulate them on a century of continuous progress.

R. E. Berube

Capt. Ray Berube



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new buildings began to sprout up and cover the area, bringing to a close the "age of coal."

The first oil stored at La Playa was called Navy Special Fuel Oil. Also known as NSFO, it was a very thick, heavy oil-based fuel that needed to be heated to make it viscous enough to flow.

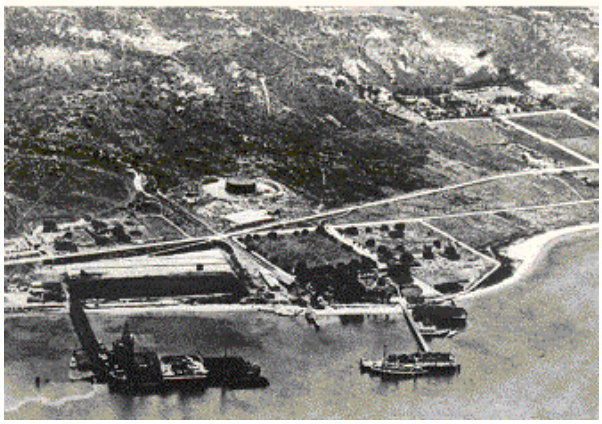
With the advent of Fort Rosecrans and WW1, it soon became apparent that every man with a gun needed ammunition. So in 1919, a series of small, reinforced concrete ammunition bunkers were built. In 1926, additional magazines and bunkers were added, and the La Playa Fuel Depot also served as a fuel and ammunition storage facility until 1974, when the ammunition responsibilities were transferred to Seal Beach.

In 1957, a petroleum laboratory was built because there were no commercial or Navy laboratories available in the San Diego area. The petroleum laboratory's mission was to perform and report on the quality of all petroleum products received and stored at the La Playa Fuel Depot.

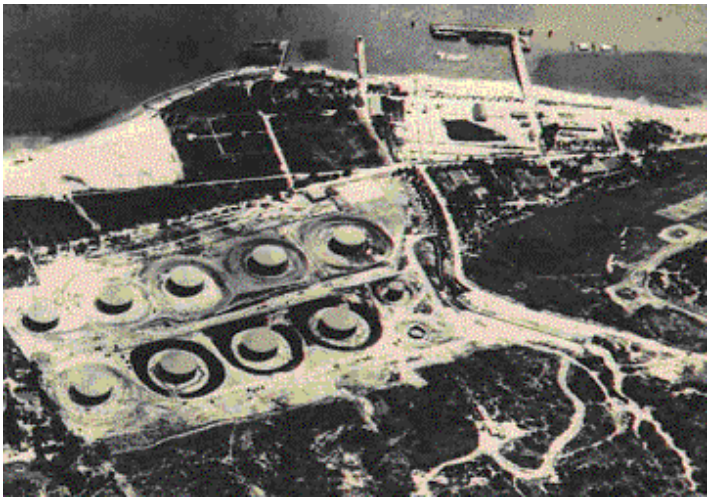
Around the same time frame, the Navy was moving from aviation gasoline to jet fuel. In 1954, the first AVGAS and JP4 (soon to be JP5) aviation jet fuel pipeline was constructed connecting Miramar with the La Playa Fuel Depot. This project added six 2 million-gallon storage tanks, a pump house, a control center, a truck filling stand, and a receiving station. In 1983, two additional pipelines were added to deliver diesel and aviation fuel to Naval Air Station North Island.

During the next several years (1970-1988), NSFO was gradually replaced by "Navy Distillate" (NDZ) a marine type diesel fuel. The shift was based on extensive research. NSFO had a high sulfur and metallic ash forming compound that created extensive soot and slag deposits in the ship's boilers that required frequent cleaning and maintenance. Although NDZ was more expensive, the Navy hoped to save on the high costs of boiler maintenance.

To meet the ever-increasing demands for cost reductions while still being tasked to provide the maximum level of service, the La Playa Fuel Depot was the first to look at automating its complex facility. The process began in 1954 with the installation of the Miramar pipeline. The installation of the first centralized control and supervision of the fuel supply operations was installed in 1969. It consisted of a semi-



The Coaling Station in 1923 with the coal storage area (dark material) in the foreground and the fuel pier.



The same area in 1937 shows the coal-loading derrick on the fuel dock had disappeared and the small remaining pile of coal shown would soon follow. New buildings would begin to sprout up and bring a close to the "age of coal."

In 1919, a series of bunkers were built to house ammunition and the La Playa Fuel Depot became a fuel and ammunition depot.

graphic display of tanks, pumps, valves, pipelines, and "telemetering" systems under the control of a senior fuel operator.

In 1986, the depot entered the computer age to meet all its fuel distribution requirements. After a successful benchmark test, the system became operational in 1988 and served as the prototype for all the other Navy fuel terminals.

The system developed was advanced for its time. The dispatcher's console had a color graphic display screen that allowed the operator to open and close valves, and start and stop pumps by simply touching the symbols on the color graphic screen. Visual and audio alarms were built into the system to alert the operator of potential problems. The system reported back in real-time the flow rate and tank levels, and automatically calculated the specific gravity and temperature of the product.

Throughout the period of the '80s and '90s, millions of dollars were invested in upgrading the Fuel Depot's infrastructure. Roadways were resurfaced, leak detection equipment was installed, an oily wastewater treatment plant was built, a fuel oil reclaimed plant was constructed to recycle ballast oil to reclaimed oil, the fire protection system was upgraded, the fuel pier was renovated, and new piping was installed.

As the Fuel Depot moves into a new millennium, and its second century as a fueling station, additional money is being invested in a concerted effort to honor its historical past, protect the fragile ecological balance, and to maintain its strategic importance to the Navy. The automated fuel handling system is being upgraded and the 60-year-old diesel product and sludge lines are being replaced.

The "Old La Playa Coaling Station" continues to remain a bustling productive supply activity and will probably remain so well into the future.

The Fleet and Industrial Supply Center Fuel Department today is of strategic importance to the Navy.

The petroleum lab was built in 1957 to test the petroleum products received and stored at the La Playa Fuel Depot.

The dispatcher's console today allows operators to open and close valves and start and stop pumps by touching symbols on the color graphic screen.

Stephen Frey is the Fuel Director at the Fleet and Industrial Supply Center, San Diego. Prior to FISC, he was employed in the private sector as a physical distribution manager, industrial engineer, and ultimately an environmental protection manager. He has a bachelor's degree from the University of Maryland, holds two master degrees, one from the University of Southern California (Education) and the other from West Coast University (Environmental Management). He is a licensed independent contractor and a registered environmental assessor with the State of California.